

# HUBS

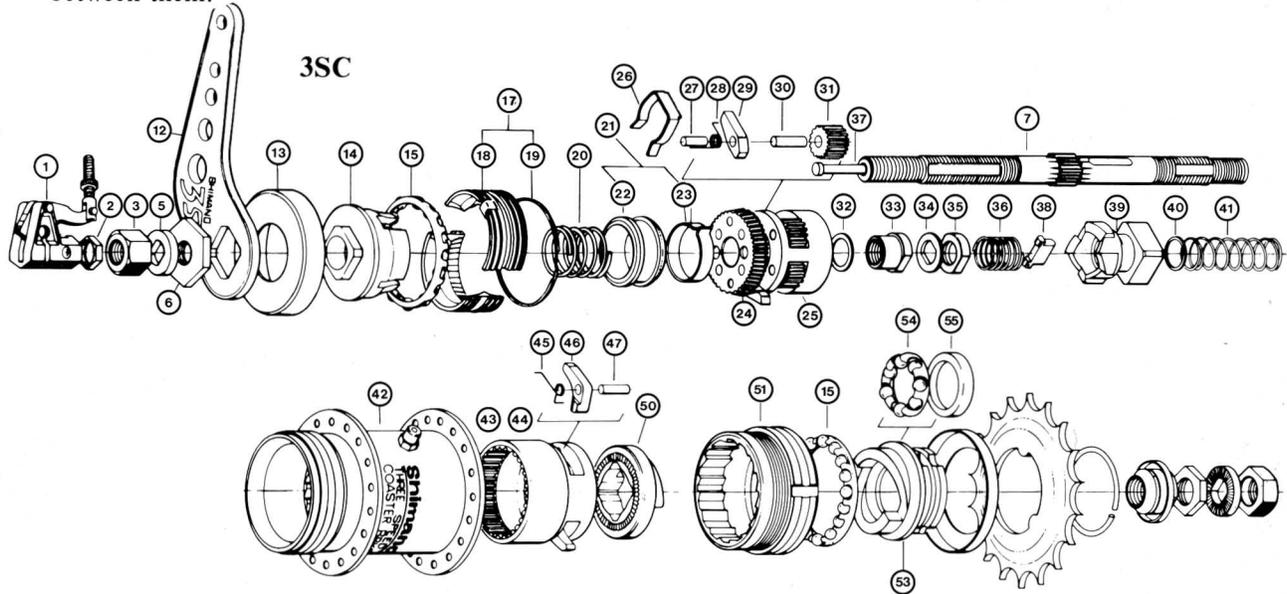
## SHIMANO 3 SPEED COASTER BRAKE

Vertical line between numbers indicates parts are not interchangeable.

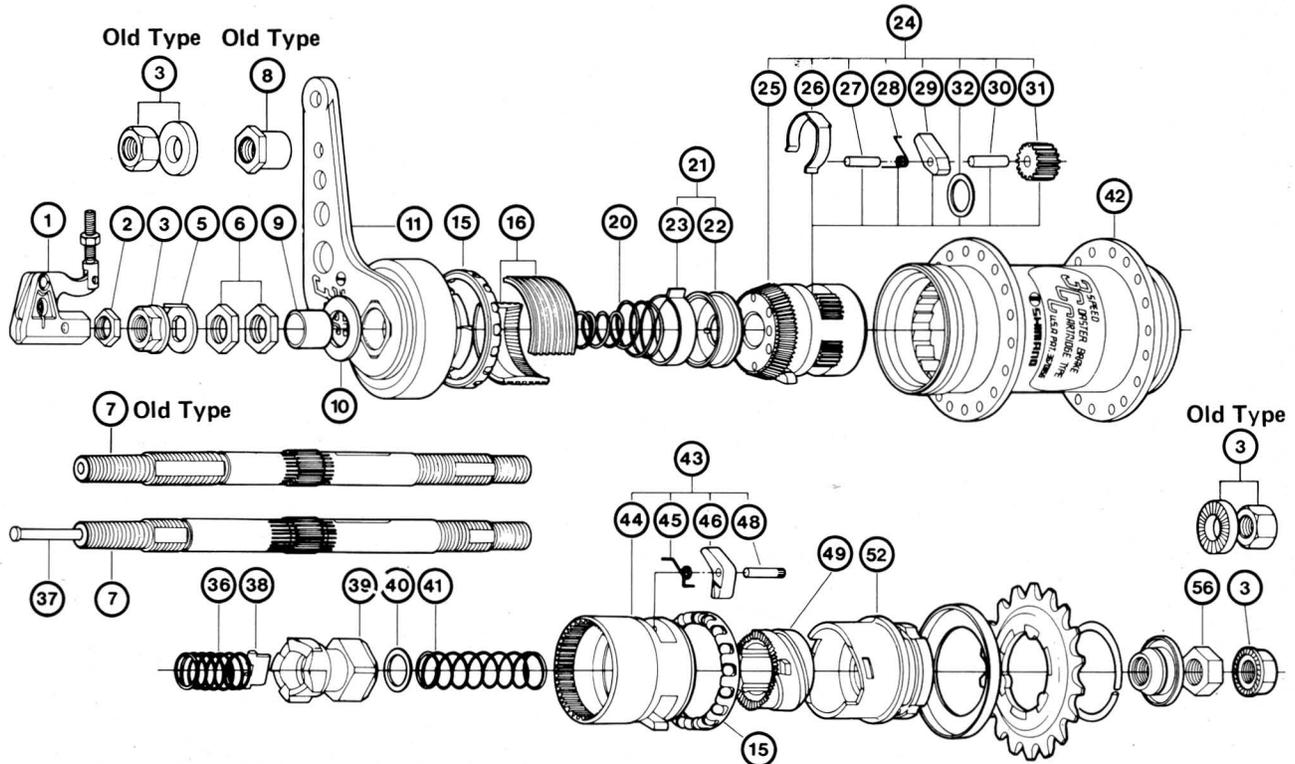
Parts are interchangeable only if they are on the same line and they do not have a vertical line between them.

Parts not numbered are interchangeable with Shimano 3-speed.

Additional parts which are interchangeable with Shimano 3-speed are marked with an asterisk in the parts table.



## 3CC CARTRIDGE TYPE

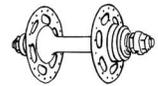


**SHIMANO 3-SPEED COASTER BRAKE  
PARTS INTERCHANGEABILITY**

New Type  
3CC  
TC-200

Old Type  
3CC  
TC-100

3SC



**HUBS**

1.	Bell Crank Complete	321 9029-1	333 9001-1	333 9001-1
2.	Bell Crank Locknut	321 8300*	321 8300*	321 8300*
3.	Axle Nut	220 1501-1	200 0300	333 4100
4.	Lock Washer			333 4200
5.	Non Turn Washer	321 6400	321 6400	
6.	Left-Hand Locknut	321 3900	321 3900	333 0301
7.	Axle 168 mm (6 <sup>5</sup> / <sub>8</sub> ")	334 1500-1 <sup>2</sup>	334 1500 <sup>2</sup>	333 3800
8.	Stop Nut		334 0400 <sup>2</sup>	
9.	Sleeve	334 0400-1 <sup>2</sup>		
10.	Brake Arm Washer	334 1600	334 1600	
11.	Brake Arm Assembly	334 9007	334 9007	
12.	Brake Arm			333 0500-1
13.	Dust Cap L			333 1100-1
14.	Brake Cone			333 1200-1
15.	Ball Retainer B	321 9023*	321 9023*	321 9023*
16.	Brake Shoe Set	334 9008	334 9008	
17.	Brake Shoe and Spring			333 9031 <sup>1</sup>
18.	Brake Shoe			333 1300
19.	Brake Shoe Spring			333 1400
20.	Return Spring	334 0800	334 0800	333 1900
21.	Spring Guide and Slide Spring	333 9032	333 9032	333 9032
22.	Spring Guide	333 2100	333 2100	333 2100
23.	Slide Spring	333 2000	333 2000	333 2000
24.	Carrier Assembly	334 9009	334 9009	
25.	Carrier	333 2200	333 2200	333 2200
26.	Stop Spring	333 4800	333 4800	333 4800
27.	Pawl Pin D	333 2600	333 2600	333 2600
28.	Pawl Spring D	333 2700	333 2700	333 2700
29.	Pawl D	333 2500	333 2500	333 2500
30.	Pinion Pin	333 2300-1	333 2300-1	333 2300-1
31.	Planet Pinion	321 5500*	321 5500*	321 5500*
32.	Thrust Washer	333 2400	333 2400	333 2400
33.	Stop Nut			333 0400-1
34.	Non Turn Washer			333 3900
35.	Lock Nut B			333 4000-1
36.	Clutch Spring B	332 3400	332 3400	333 3200
37.	Push Rod	321 7300-1	321 7300	321 7300
38.	Axle Key	333 3300	333 3300	333 3300
39.	Sliding Clutch	334 1200-1	334 1200	333 3100
40.	Clutch Washer	333 3400	333 3400	333 3400
41.	Clutch Spring A	333 3500	333 3500	333 3500
42.	Hub Shell 28 holes	334 9003-1	334 9003	333 9007
	36 holes	334 9005-1	334 9005	333 9014
43.	Ring Gear Assembly	334 9010	334 9010	
44.	Ring Gear	334 1100	334 1100	333 2800
45.	Pawl Spring E	333 3000	333 3000	333 3000
46.	Pawl E	333 2900	333 2900	333 2900
47.	Pawl Pin D			333 2600
48.	Pawl Pin E	333 4600	333 4600	
49.	Lead	334 1300	334 1300	
50.	Cam			333 3600
51.	Right-Hand Ball Cup			333 1800
52.	Driver with Ball Retainer, Dust Cap	334 9015	334 9015	
53.	Driver			333 3700
54.	Ball Retainer A			321 9022
55.	Dust Cap A			321 2700
56.	Right-Hand Locknut	321 4000	321 4000	

\*Interchangeable with Shimano 3-speed.

<sup>1</sup>Old part number 33 9019.

<sup>2</sup>New Style Axle (334-1500-1) combined with Sleeve (334-0400-1) interchange with Old Style Axle (334-1500) and Stop Nut (334-0400). Individually these parts are not interchangeable

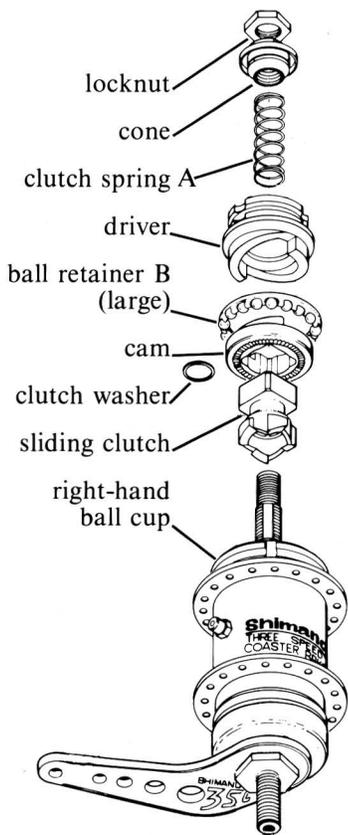
# HUBS

## SHIMANO 3SC 3-SPEED COASTER BRAKE DISASSEMBLY AND ASSEMBLY

### 1 DISASSEMBLY

Remove right-hand locknut and cone. Lift off driver and clutch spring A. Remove sliding clutch, cam and large ball retainer (B). Remove clutch washer from inside clutch.

Slip Shimano ball cup tool (not shown) over axle to engage right-hand ball cup. Invert assembly, hold tool in vise and turn wheel counter-clockwise to loosen ball cup.



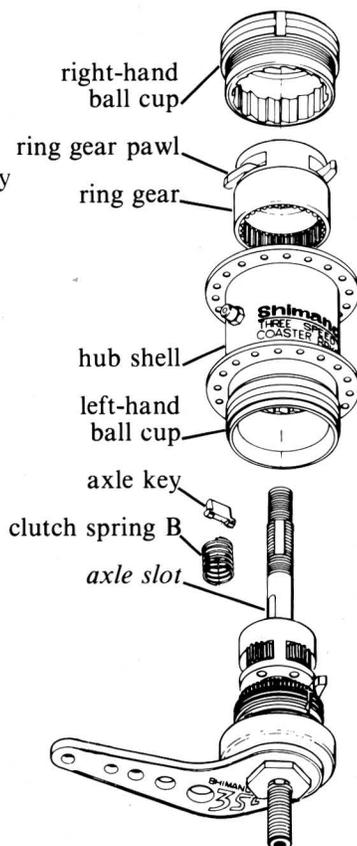
Install sliding clutch, square end up. Install cam *flat serrated side down*. Install clutch washer, clutch spring and driver. Install ball retainer (B) *flat side up*. Install right-hand cone and locknut. Adjust bearing.

### ASSEMBLY 4

Next Step

### 2 DISASSEMBLY

Remove tool, lift hub slightly and unscrew ball cup. Remove hub shell and ring gear assembly. Remove axle key and light gauge spring (clutch spring B) from axle.

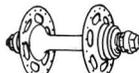


Invert assembly. Install light gauge clutch spring (B). Install axle key *notch down* in axle slot. Slip hub shell over assembly with left-hand ball cup seating against balls in ball retainer. Rotate ring gear pawls into operating position (full clockwise, viewed from above), press in and slip ring gear over axle into hub shell. Thread in right-hand ball cup. Tighten with ball-cup tool.

### ASSEMBLY 3

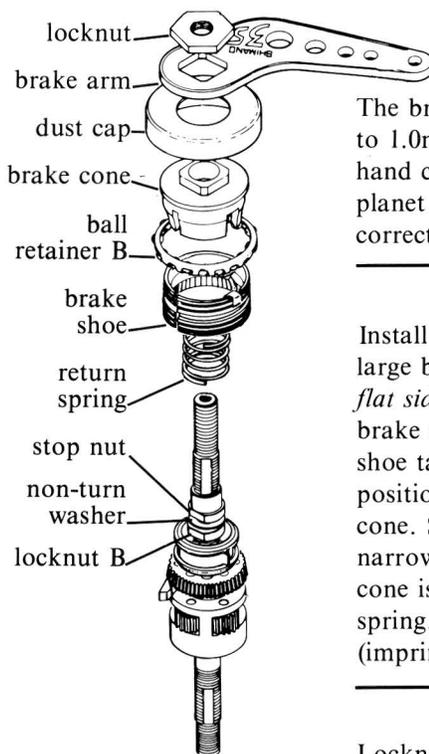
Next Step  
Next Page

**SHIMANO 3SC  
3-SPEED COASTER BRAKE  
DISASSEMBLY AND ASSEMBLY (cont.)**

**HUBS** 

**3 DISASSEMBLY**

Remove left-hand locknut. Lift off brake arm, dust cap, brake cone, large ball retainer (B) and brake shoe. Remove return spring. Loosen stop nut. If merely adjusting brake shoe clearance, go to assembly step 2.



Next Step  
↑  
Preceding Page

The brake shoe should have from 0.5mm to 1.0mm vertical play between the left-hand cone and the serrated end of the planet carrier. If adjustment is not correct, go to disassembly, step 3.

Install large diameter return spring. Slip large ball retainer over left hand cone *flat side toward dust cap*. Assemble brake shoe and brake cone with brake shoe tabs engaging slots in cone. Note position of the narrow slot in brake cone. Slip assembly over axle so that narrow slot engages slide spring as brake cone is pushed down against return spring. Install dust cap, brake arm (imprinted side up) and large locknut.

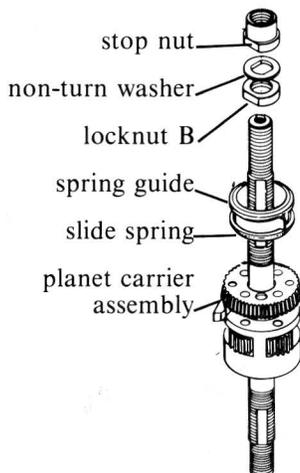
Locknut (B) determines brake shoe play; threading it down reduces play, threading it up increases play. Lock locknut (B) in place with non-turn washer and stop nut as shown.

**ASSEMBLY 2**

Next Step  
↓

**4 DISASSEMBLY**

Remove stop nut, non-turn washer and locknut (B). Lift off spring guide and planet carrier. Remove slide spring from spring guide only if it is to be replace.



Next Step  
↑

Install spring guide with dogs down. Make sure hooked end of slide spring is *clockwise from spring gap*. Incorrect installation will cause excessive drag and wear. Spring guide dogs engage holes in planet carrier. Thread locknut (B) finger tight against axle shoulder, then back off about one full turn.

Fix axle in vise, hollow end up. Slip planet carrier assembly over axle with planet pinions engaging sun pinion.

**ASSEMBLY 1**

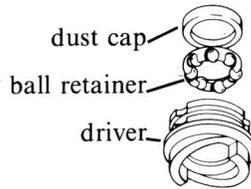


**SHIMANO 3SC  
3-SPEED COASTER BRAKE  
DISASSEMBLY AND ASSEMBLY (cont.)  
SUBASSEMBLIES**

**DISASSEMBLY**

**Driver**

Remove dust cover with a thin-bladed screwdriver. Work slowly around cover to avoid deforming it. Lift out ball retainer.



**Driver**

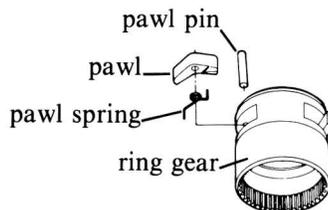
*Install ball retainer flat side up. Start dust cover straight and tap home with a soft hammer.*

**ASSEMBLY**

**DISASSEMBLY**

**Ring Gear**

Push out pawl pins (E), catch pawls (E) and pawl springs (E).



**Ring Gear**

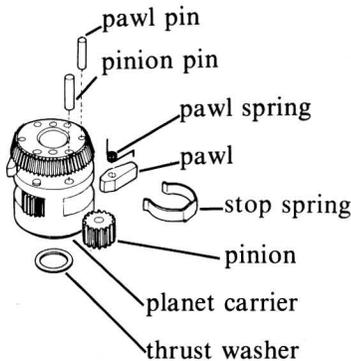
Position ring gear with *gear teeth down*. When installed, Pawl (E) has *long end out* and *recessed side down*. Pawl spring (E) lies in pawl recess with *long hooked leg through hole in gear ring* and *short hooked leg bearing against the outside surface of the short end of pawl* (long leg has short hooked segment and vice versa). Install pawl spring, pawl and pawl pin. *Be sure pin passes through spring coil.* Check pawl operation. Repeat for other pawl.

**ASSEMBLY**

**DISASSEMBLY**

**Planet Carrier**

Tap out pawl pins (D) a few millimeters. Pull pins out, catch pawls (D) and pawl springs (D). Remove stop spring from carrier body groove. Tap or push out pinion pins. Remove pinions. Extract thrust washer.



**Planet Carrier**

Stick thrust washer in place. Position pinion, insert pinion pin. Repeat for remaining pinions. Pins protrude about 1mm above the central planet carrier flange. Install stop ring with wide section between the protruding ends of two pinion pins *that do not have a pawl pin hole between them*. Position planet carrier with serrated cone up. When installed, hooked end of pawl spring (D) bears against *inside surface of the long end of pawl* (D). Straight end of pawl spring bears against stop spring. Install pawls with *driving edge pointing counter-clockwise*. Insert pawl pin through pawl spring and pawl. Pawl pin does not protrude above carrier body. Check pawl operation before proceeding.

**ASSEMBLY**

**SHIMANO 3SC  
3-SPEED COASTER BRAKE  
DISASSEMBLY AND ASSEMBLY (cont.)**



**CLEANING**

Clean all parts, including outside of hub shell and axle bore, in a suitable solvent. Be very careful not to introduce dirt or grit after cleaning.

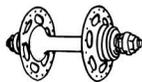
**POINTS TO CHECK**

Numbers in parenthesis refer to parts chart and exploded drawing.

1. Pawls (29, 46), ratchets in hub shell (42) and right-hand ball cup (51) for chipped or rounded edges
2. Gear teeth on axle (7), planet pinions (31), and ring gear (43) for wear and chipping
3. Sliding clutch (39), and inside of planet carrier (24) for rounded or chipped driving edges
4. Return spring (20), slide spring (23), stop spring (26) and clutch springs (36, 41) for shape and tension; replace pawl springs (28, 45) at overhaul
5. Right-hand cone, driver (53), brake cone (14) and hub shell (42) bearing races for wear and pitting
6. Dustcaps, ball retainers (15, 54) and axle (7) for straightness
7. All threaded parts for damaged or stripped threads
8. Brake shoes (18) and hub shell (42) for wear or glazing
9. Teeth or serrations of cam (50), ring gear (44), planet carrier (24) and brake shoes (18) for wear or burring
10. Threads of cam (50) and driver (53) for wear or roughness

**LUBRICATION**

Lubricate ball retainers by filling the spaces between balls with grease. Lubricate hub shell and brake shoes liberally with a high-temperature grease. Be careful not to grease pawl springs. Lightly oil other internal parts with a *good* cycle oil. (WD-40 is too light for lasting lubrication, 3-in-1 Oil gums up with age.) Add about two teaspoons (8 ml) of oil when assembled.

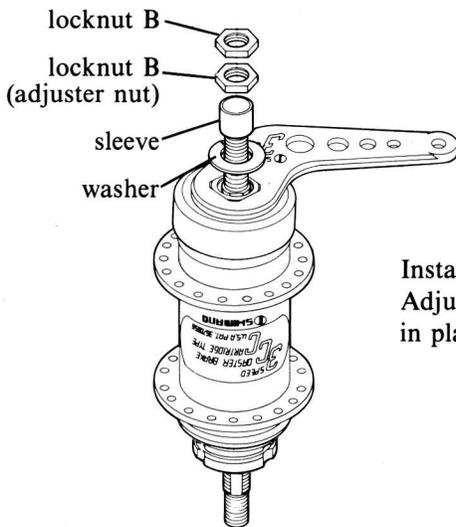


HUBS

SHIMANO 3CC CARTRIDGE TYPE  
3-SPEED COASTER BRAKE  
DISASSEMBLY AND ASSEMBLY

**1 DISASSEMBLY**

Remove left-hand B locknuts, washer and sleeve.



Install washer, sleeve and B locknuts. Adjust bearing, locking first locknut in place with the second.

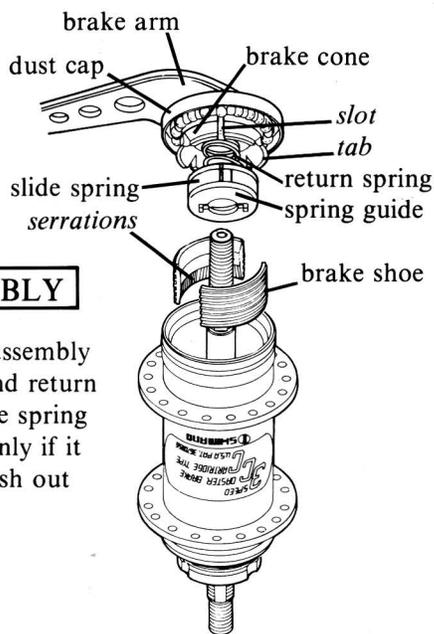
**ASSEMBLY 4**

Next Step



**2 DISASSEMBLY**

Lift off brake arm assembly with spring guide and return spring. Remove slide spring from spring guide only if it is to be replaced. Fish out brake shoes.



Next Step



Position brake shoes *internal serrations down* and stick into hub shell. Replace spring guide slide spring if it was removed. Viewed as shown, *hooked end of slide spring must be counter-clockwise from gap*. Incorrect installation will cause excessive drag and wear.

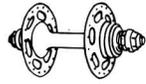
Assemble brake arm, spring guide and return spring into a single unit by inserting return spring with a clockwise twisting motion. *Rotate spring guide until hooked end of slide spring is aligned with brake cone slot*. Note position of brake cone tabs, and slip spring-guide/brake-cone assembly over axle with brake cone tabs engaging gaps between brake shoes. Rotate slightly until properly seated.

**ASSEMBLY 3**

Next Step  
Next Page



**SHIMANO 3CC CARTRIDGE TYPE  
3-SPEED COASTER BRAKE  
DISASSEMBLY AND ASSEMBLY (cont.)**

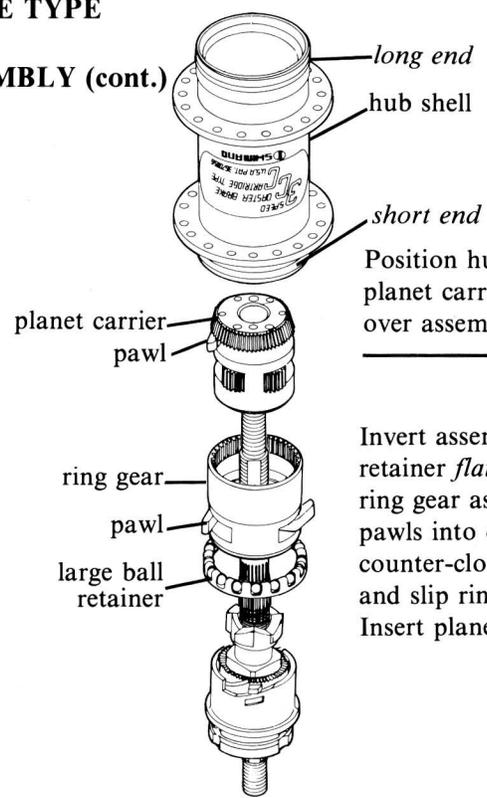
**HUBS** 

**3 DISASSEMBLY**

Lift off hub shell.



Remove planet carrier assembly. Hold ring gear pawls full counter-clockwise and lift carrier off over sliding clutch. Remove large ball retainer.



Position hub shell *long end up*, push in planet carrier pawls and slip hub shell over assembly.

Next Step  
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Preceding Page

Invert assembly. Install large ball retainer *flat side toward driver*. Position ring gear assembly *gear teeth up*, rotate pawls into operating position (full counter-clockwise, viewed from above) and slip ring gear over sliding clutch. Insert planet carrier into ring gear.

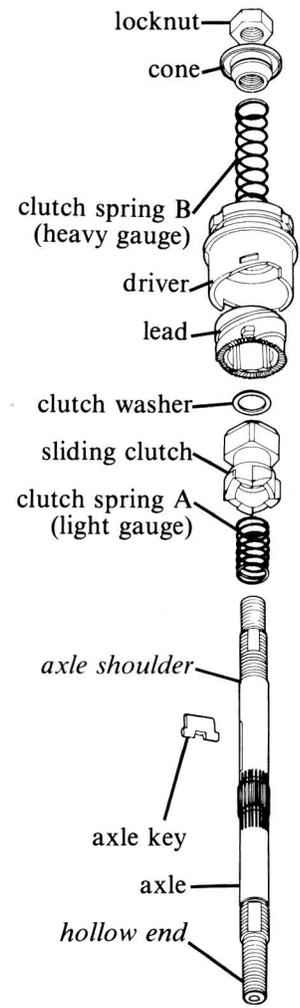
**ASSEMBLY 2**

Next Step



**4 DISASSEMBLY**

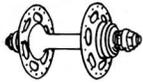
Invert assembly, remove right-hand locknut, cone and heavy gauge clutch spring (B). Lift off driver and lead. Remove sliding clutch; extract clutch washer from inside clutch. Remove axle key and light gauge clutch spring (A).



Position axle *hollow end down*. Install light gauge clutch spring (A). Compress spring and insert axle key *notch down* as shown. Release spring to hold key in position. Install sliding clutch *square end up*. Slip clutch washer into clutch. Install lead teeth down. Screw driver onto lead. Install clutch spring (B). Thread on cone and tighten against axle shoulder. Install right-hand locknut.

Next Step  
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**ASSEMBLY 1**



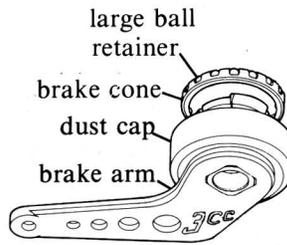
## HUBS

### SHIMANO 3CC CARTRIDGE TYPE 3-SPEED COASTER BRAKE DISASSEMBLY AND ASSEMBLY (cont.)

#### DISASSEMBLY

Pop large ball retainer over brake cone tabs. Brake cone, brake arm and dust cap are press fit together and should not be forced apart.

#### SUBASSEMBLIES



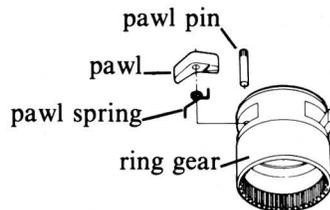
Pop large ball retainer over brake cone tabs *flat side toward dust cap*.

#### ASSEMBLY

#### DISASSEMBLY

##### Ring Gear

Push out pawl pins (E), catch pawls (E) and pawl springs (E).



##### Ring Gear

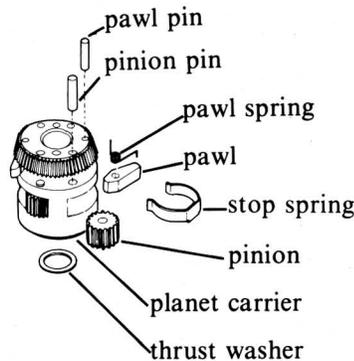
Position ring gear with *gear teeth down*. When installed, Pawl (E) has *long end out* and *recessed side down*. Pawl spring (E) lies in pawl recess with *long hooked leg through hole in gear ring* and *short hooked leg bearing against the outside surface of the short end of pawl* (*long leg has short hooked segment and vice versa*). Install pawl spring, pawl and pawl pin. *Be sure pin passes through spring coil*. Check pawl operation. Repeat for other pawl.

#### ASSEMBLY

#### DISASSEMBLY

##### Planet Carrier

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##### Planet Carrier

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#### ASSEMBLY

**SHIMANO 3CC CARTRIDGE TYPE  
3-SPEED COASTER BRAKE  
DISASSEMBLY AND ASSEMBLY (cont.)**



**CLEANING**

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**POINTS TO CHECK**

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